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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/729,996

12/09/2003

Roger A. Benham

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2796

7590

05/17/2006

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EXAMINER

BELL, BRUCE F

ART UNIT

PAPER NUMBER

1746

DATE MAILED: 05/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/729,996

Applicant(s)

BENHAM, ROGER A.

Examiner

Bruce F. Bell

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-15 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 January 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3/15/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 2-10 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2-10 and 12 are vague and indefinite with respect to the "improved" cathodic protection system. Claim 1 does not recited that the cathodic protection system is improved and therefore, it is unclear as to what the improvement is, since Jebson claims typically recite what is known and only the improvement is claimed. Since claim 1 does not recite the improvement or set forth what the improvement is, it would appear that the instant claims 2-10 and 12 are improper, since they depend on claim 1 which is not claiming the invention as being improved. Correction and/or clarification is requested.

Claim 2 is further vague and indefinite for the phrase "or the like". It is unclear as to what the structure of "or the like" is from the instant claim as set forth.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A. person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 13-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Pultan et al (5415745).

Pultan et al discloses a method of providing cathodic protection to underground metallic structures which comprises creating an excavation spaced from the underground metallic structure and placing in the excavation a hollow casing having a perforate section, the hollow casing being adapted to hold therein a galvanic anode. Electrical connection between the galvanic anode and the underground metallic structure and placing the galvanic anode in the hollow casing and then filling the excavation and the hollow casing with a filler material is taught. See abstract. The galvanic anode along with a filler material is disposed in a hollow casing which has a perforate section and which is capped by a cap means on its upper portion. The method comprises removing the cap means, electrically disconnecting the galvanic anode from the terminal board and employing a vacuum extraction means to vacuum extract the galvanic anode and the filler material from the interior of the casing. The method further comprises placing in the hollow casing a second galvanic anode which has attached thereto a conductor, filling the hollow casing with a filler material and establishing an electrical connection between the galvanic anode and the underground metallic structure by means of connecting the conductor to the terminal board and recapping the hollow casing with the cap means. See col. 3, lines 14-32. The hollow casing is placed in a small hole excavation which is spaced from an underground metallic structure. The hollow casing is buried entirely beneath the

ground level, so that only the cap means is visible on the ground. See col. 4, lines 12-18. After the hollow casing is placed in the excavation, air pressure is provided by reversing the vacuum extraction means to blow out air. The hose of the vacuum extracting means is placed into the casing and the air pressure blows out foreign particles through the holes in the perforated section. The galvanic anode is then lowered into the casing and is held in place while a prepared chemical backfill is filled in the casing and in the annulus between the casing and excavation. A preferred chemical backfill consists of gypsum, bentonite clay and sodium sulfate. See col. 6, lines 26-47. The vacuum extraction means can be used to insure good soil to filler material continuity, which is accomplished by pressurizing the filler material once it is placed in the casing. See col. 7, lines 21-24.

The prior art of Pultan et al anticipates the applicants instant invention as set forth above. The filler material in Pultan et al is considered to be the same as the backfill material of the instant invention. Pultan et al shows that the container is filled with the filler material and then is extracted out of the container after having been placed in the excavation through the holes in the hollow casing. Therefore, the prior art of Pultan et al anticipates the applicants instant invention as set forth in the instant claims.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-3, 9-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Doniguian (6224742).

Doniguian discloses a cathodic protection system for protecting buried conducting structures, subject to corrosion such as well casings and pipelines. Figure 4 shows a bridge rectifier wherein the negative side of the rectifier is connected to the pipeline and the positive side is connected to the anode unit through a trigger circuit. The trigger circuit is used in conjunction with a capacitor so that the rectifiers of the trigger circuit are triggered to conduct alternately and the capacitor value is picked to set the pulse width of the output pulses supplied to the load. See col. 5, lines 29-52.

The prior art of Doniguian anticipates the applicants instant invention as set forth above. The trigger circuit with capacitor is considered to be the anti-cross connection means since it prevents the continuing flow of electrical current based upon the value of the capacitor used, which controls the pulse width of output pulses supplied to the load. Further the rectifiers themselves will act as a diode device. Therefore, the prior art of Doniguian anticipates the applicants instant invention as set forth above.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 4-8, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doniguian (6224742) in combination with Carpenter et al (5139634) and Kosoegawa et al (3959664).

Doniguian is as disclosed above in the 35 USC 102 rejection.

Doniguian does not disclose the use of a fuse or light or plug in power supply.

Carpenter et al disclose the use of a fuse in the circuitry of a dual bed cathodic protection system. The control circuit includes a volt meter, an amp meter, a plurality of connector terminal blocks, an amperage adjustment member, an interrupt switch and a fuse container member. The fuse member is operable in a conventional manner to prevent overload conditions to the electrical control circuits, due to malfunction of the power supply.

Kosoegawa et al discloses an anticorrosive circuit having a diode connection interconnected between a buried structure to be protected and a galvanic anode so that even when the difference in potential between them is relatively low, an effective forward or anticorrosion current may flow while positively preventing the reverse current which causes the corrosion of the buried structure. See abstract. The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the instant invention was made because even though the prior art of Doniguian does not disclose a fuse, light or plug in power supply, the prior art of Carpenter et al discloses that the use of fuses in cathodic

protection systems is known for the purpose of preventing overload conditions to the electrical control circuits and the prior art of Kosoegawa et al discloses that it is known in the art to use diode connection interconnected between a buried structure to be protected and a galvanic anode so as to flow an anticorrosive current but prevent a reverse current which causes corrosion of the buried structure. Therefore, one having ordinary skill in the art would be motivated to used these features in the prior art of Doniguian to safeguard the cathodic protection circuit. The use of plug-in power supplies is known to be used in many applications where AC power can not be obtained.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bruce F. Bell whose telephone number is 571-272-1296. The examiner can normally be reached on Monday-Friday 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on 571 272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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BFB

May 15, 2006

A handwritten signature in black ink, appearing to read "Bruce Bell".

Bruce F. Bell
Primary Examiner
Art Unit 1746